

Figure 1

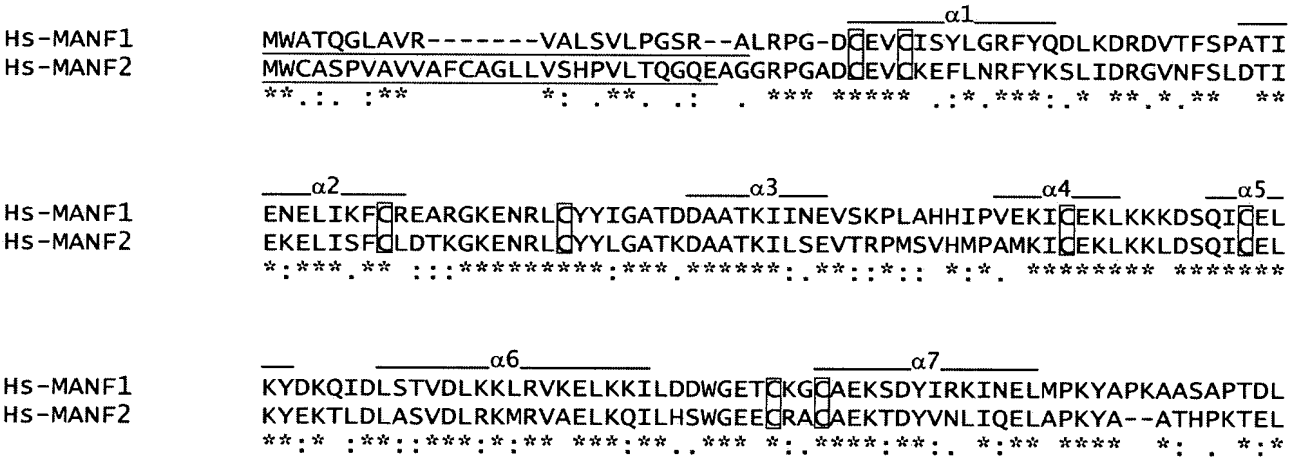


Figure 2

| | |
|----------------------------|---|
| Homo_sapiens-MANF2_Protein | MWCASPVAVVAFCAGLLVSHPVLTQGGQAGGRPGADCEVCKEFLNRFYKS |
| Mus_musculus-MANF2_Protein | MRCISPTALVTFCAGFCISNPVLAQGLEAGVGPRADCEVCKEFLDRFYNS |
| | * * *.*:*:*****: *:*:*****:*** * *****:***: |
| Homo_sapiens-MANF2_Protein | LIDRGVNFSLDTIEKELISFCLDTKGKENRLCYLGLATKDAATKILSEVT |
| Mus_musculus-MANF2_Protein | LLSRGIDFSADTIEKELLNFCSDAKGKENRLCYLGLATTAATKILGEVT |
| | *.:*.:** *****:.* *:*****:*****.*****.*** |
| Homo_sapiens-MANF2_Protein | RPMSVHMPAMKICCEKLKKLDSQICELKYEKTLDLASVDLRKMRVAELKQI |
| Mus_musculus-MANF2_Protein | RPMSVHI PAVKICCEKLKKMDSQICELKYGKGLDLASVDLWKMVAELKQI |
| | *****:*.:*****:*****.*.***** ***** |
| Homo_sapiens-MANF2_Protein | LHSWGEECRACAEKTDYVNLIQELAPKYAATHPKTEL |
| Mus_musculus-MANF2_Protein | LQRWGEECRACAEKSDYVNLIRELAPKYVEIYPQTEL |
| | *: *****:*****:*****:*****.***** |

Figure 3

Mus_musculus-MANF1
Rattus_norvegicus-MANF1
Homo_sapiens-MANF1
Bos_Taurus-MANF
Gallus_gallus-MANF
Xenopus_laevis-MANF
Fugu_rubribes-MANF
Danio_rerio-MANF
Homo_sapiens-MANF2
Mus_musculus-MANF2
Drosophila_melanogaster-MANF
Canorhabditis_elegans-MANF

Mus_musculus-MANF1
Rattus_norvegicus-MANF1
Homo_sapiens-MANF1
Bos_Taurus-MANF
Gallus_gallus-MANF
Xenopus_laevis-MANF
Fugu_rubribes-MANF
Danio_rerio-MANF
Homo_sapiens-MANF2
Mus_musculus-MANF2
Drosophila_melanogaster-MANF
Canorhabditis_elegans-MANF

Mus_musculus-MANF1
Rattus_norvegicus-MANF1
Homo_sapiens-MANF1
Bos_Taurus-MANF
Gallus_gallus-MANF
Xenopus_laevis-MANF
Fugu_rubribes-MANF
Danio_rerio-MANF
Homo_sapiens-MANF2
Mus_musculus-MANF2
Drosophila_melanogaster-MANF
Canorhabditis_elegans-MANF

Mus_musculus-MANF1
Rattus_norvegicus-MANF1
Homo_sapiens-MANF1
Bos_Taurus-MANF
Gallus_gallus-MANF
Xenopus_laevis-MANF
Fugu_rubribes-MANF
Danio_rerio-MANF
Homo_sapiens-MANF2
Mus_musculus-MANF2
Drosophila_melanogaster-MANF
Canorhabditis_elegans-MANF

```
CEVCI SYLGRFYQDLKDRDVTFS PATIEEELIKFCREARGKENRLCY YIG
CEVCI SYLGRFYQDLKDRDVTFS PATIEEELIKFCREARGKENRLCY YIG
CEVCI SYLGRFYQDLKDRDVTFS PATIENELIKFCREARGKENRLCY YIG
CEVCI SYLGRFYQDLKDRDVTFS PASIEKELIKFCREARGKENRLCY YIG
CEVCV TFLGRFYQSLKDNNEVFTPASIEKELMKSCREAGKENRLCY YIG
CEVCV SFLSRFYQSLKERQVEFKPDAVEKELLKTCNDARGKENRLCY YIG
CPVCI AFLGRFYDSLKDNEVAFNNVDIEKALT KSCNDAKGKENRLCY YIG
CEVCV GFLQRLYQTIQENNVKFDSDSIEKALLKSCDAKGKENRLCY YIG
CEVCKEFLNRFYKSLIDRGVNFSLDTIEKELISFCLDTKGKENRLCY YLG
CEVCKEFLDRFYNSLLSRGIDFSADTIEKELNFCSDAKGKENRLCY YLG
CEVCVKTVRRFADSLDDS-TKKDYKQIETAFKKFCQAQKNKEHRFCY YLG
CEVCCKVLDDVMAKVPAGDKSKP-DAIGKVIREHCETTRNKENKFCY YIG
* ** : . : : : . * : . * : *
```

```
ATDDAATKIINEVSKPLAHHIPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATDDAATKIINEVSKPLAHHIPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATDDAATKIINEVSKPLAHHIPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATEDAATKIINEVSKPLSHHIPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATSDAATKIINEVSKPMSHHIPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATSDAATKITNEVSKPLSHHIPAEKIC-EKLKKKDGQICELKYDKQIDLS
ATSDAATKMINEVSKPMSHHVPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATSDAATKITNEVSKPMSYHVPVEKIC-EKLKKKDSQICELKYDKQIDLS
ATKDAATKILSEVTRPMSVHPAMPKIC-EKLKKKDSQICELKYDKQIDLS
ATDDAATKILGEVTRPMSVHIPAVKIC-EKLKKKDSQICELKYDKQIDLS
GLEESATGILNELSKPLSWSMPAEKIC-EKLKKKDAQICDLRYEKQIDLN
ALPESATSIMNEVTKPLSWSMPTEKVCLEKLKGKDAQICELKYDKPLDWK
. : * : . * : : : : : . * : * : * : * : *
```

```
TVDLKKLRVKELKKILDDWGEMCKGCAEKSDYIRKINELMPKYAPKAASA
TVDLKKLRVKELKKILDDWGEMCKGCAEKSDYIRKINELMPKYAPKAASA
TVDLKKLRVKELKKILDDWGEMCKGCAEKSDYIRKINELMPKYAPKAASA
TADLRKLRVKELRRILDDWGEACXXCAEKSDYIRKINELMPKYAPKAASA
TVDLKKLRVKELKKILDDWGEMCKGCAEKSDYIRKINELMPKYAPKAASA
TVDLKKLRVKELKKILDDWGEMCKGCAEKSDYIRKINELMPKYAPKAASA
SVDLKKLRVKELKKILEEWGESCKGCVESDFIRKINELMPKYAPKAASA
SVDLRKMRVAELKQILHSWGEECRACAETDYVNLIELAPKYA--ATHP
SVDLRKMRVAELKQILQRWGEECRACAETDYVNLIELAPKYV--EIYP
SVDLKKLRVKELKKILNDWDESCDGLKGDYFIKRIEELKPKYS-----
TIDLKMRVKELKNILGEWGEVCKGCTEKAELIKRIEELKPKYV-----
: ** * : * : . : * * : * : * : * : * : *
```

```
RTDL
RTDL
PTDL
RTDL
RADL
RTDL
RTEL
RTDL
KTEL
QTEL
RSEL
KEEL
: *
```

Figure 4

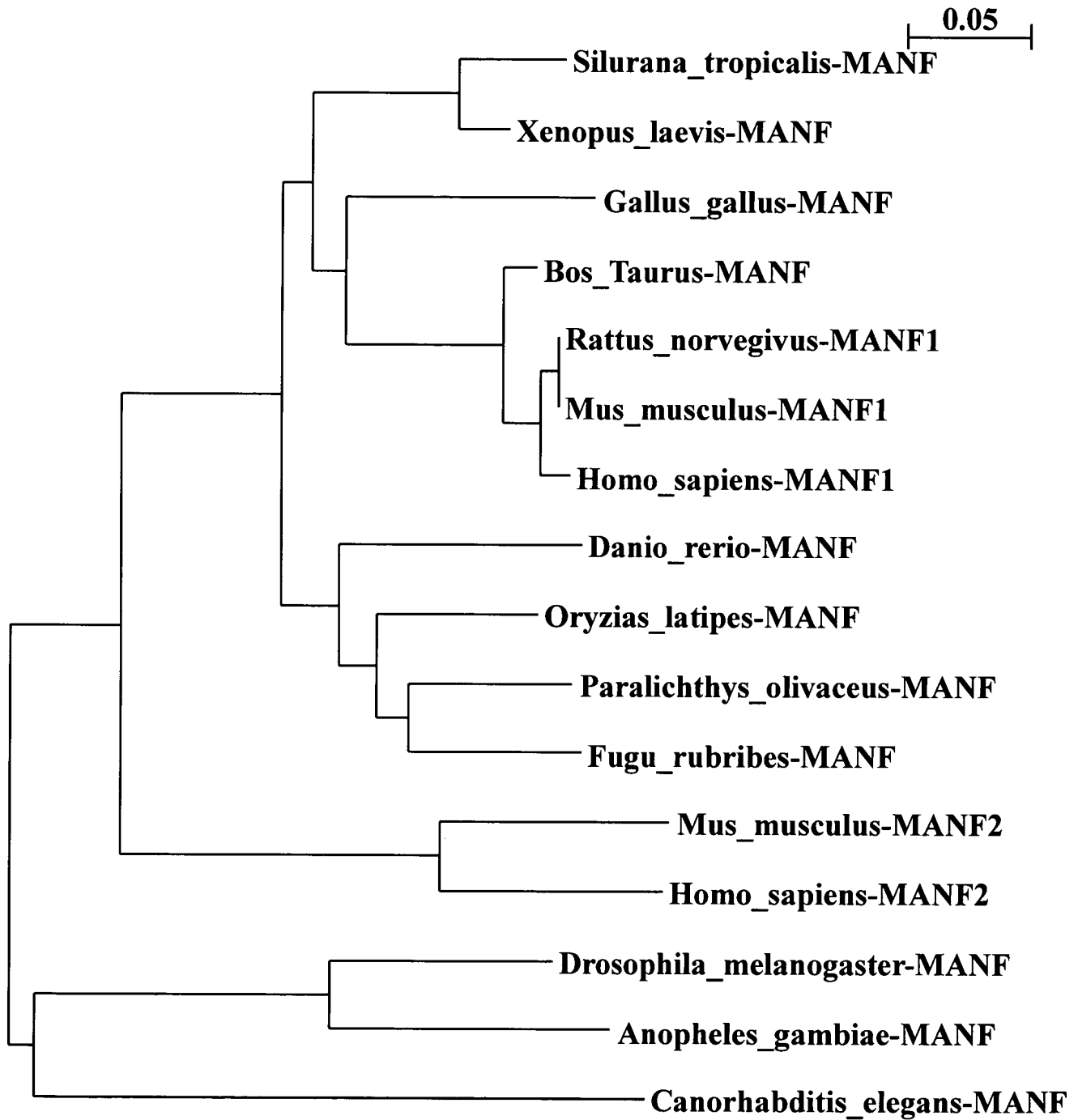


Figure 5

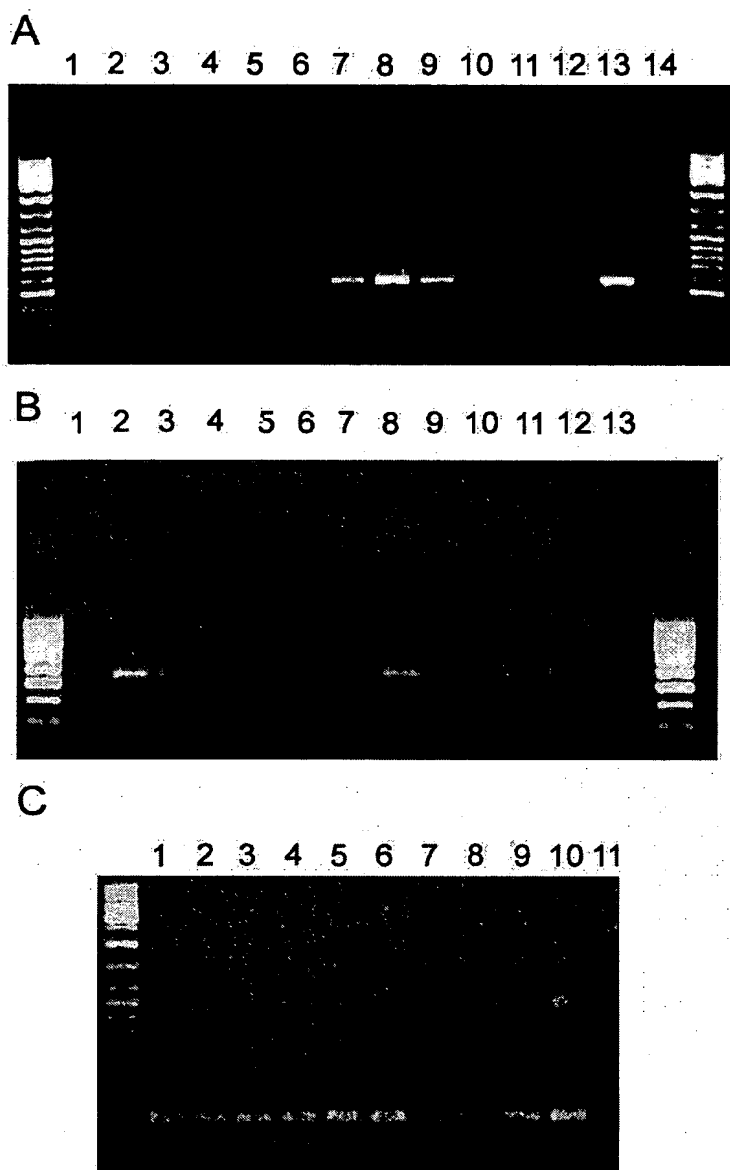


Figure 6

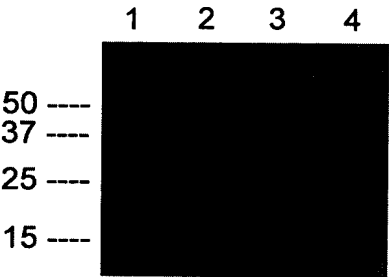


Figure 7

Seq ID NO 1:

>*Homo sapiens* MANF2 cDNA

```
atgtggtgcgcgagcccagttgctgtggtggccttttgcgccgggcttttgctctcaccgggtgctgacgcagggccaggaggc
cggggggcgccagggggccgactgtgaagtatgtaaagaattctgaaccgattctacaagtcactgatagacagaggagttaac
tttcgctggacactatagagaaagaattgatcagttttgcttggacaccaaaggaaaagaaaaccgcctgtgctattatctaggag
ccacaaaagacgcagccacaaagatcctaagtgaagtcactcgcccaatgagtgtgcatatgcctgcaatgaagatttgtgagaa
gctgaagaagttgatagccagatctgtgagctgaaatatgaaaaaactggacttggcatcagttgacctgcggaagatgaga
gtggcagagctgaagcagatcctgcatagctggggggaggagtgcagggcctgtgcagaaaaaactgactatgtaatctcattc
aagagctggccccaagtatgcagcgacacaccccaaacagagctctga
```

Seq ID NO 2:

>*Homo sapiens* MANF2 protein

```
MWCASPVAVVAFCAGLLVSHPVLTQGGQEAGGRPGADCEVCKEFLNRFYKSLIDR
GVNFSLDTIEKELISFCLDTKGKENRLCYYLGATKDAATKILSEVTRPMSVHMPAM
KICEKLKKLDSQICELKYEKTLDLASVDLRKMRVAELKQILHSWGEECRACAECT
DYVNLIELAPKYAATHPKTEL
```

Seq ID NO 3:

>*Mus musculus* MANF2 cDNA

```
atgcggtgcatcagtccaactgctctggtgaccttttgcgccgggtttgtatctcgaaccctgtgctggcgcagggcctggaggcc
ggtgtggggccgagggctgactgtgaagtatgtaaagaattcttagaccgattctacaactccctgctaagcagaggcatagacttt
tctcggacaccatagagaaagagctgctcaacttttctcagatgccaaaggaaaagaaaaccgcctgtgctattatctgggggc
caccacagatgcagccaccaagatcctaggagaagtcactcgtcccatgagtgtacacatacctgccgtgaagatttgtgagaag
ctaaagaagatggacagccagatctgtgagctgaaatacgggaagaagctggacttggcgtcgggtggacctgtggaagatgaga
gtggcagagctaaagcagatccttcagagatggggggaagagtgcagggcatgtgcggagaaaagtgactacgtgaacctcatt
agagagctggccccaatatgtagagatataccccaaacggagctctga
```

Seq ID NO 4:

>*Mus musculus* MANF2 protein

```
MRCISPTALVTFCAGFCISNPVLAQGLEAGVGPRADCEVCKEFLDRFYNSLLSRGI
DFSADTIEKELLNFCSDAKGKENRLCYYLGATTTDAATKILGEVTRPMSVHIPAVKI
CEKLKKMDSQICELKYGKKLDLASVDLWKMRVAELKQILQRWGEECRACAES
DYVNLIRELAPKYVEIYPQTEL
```

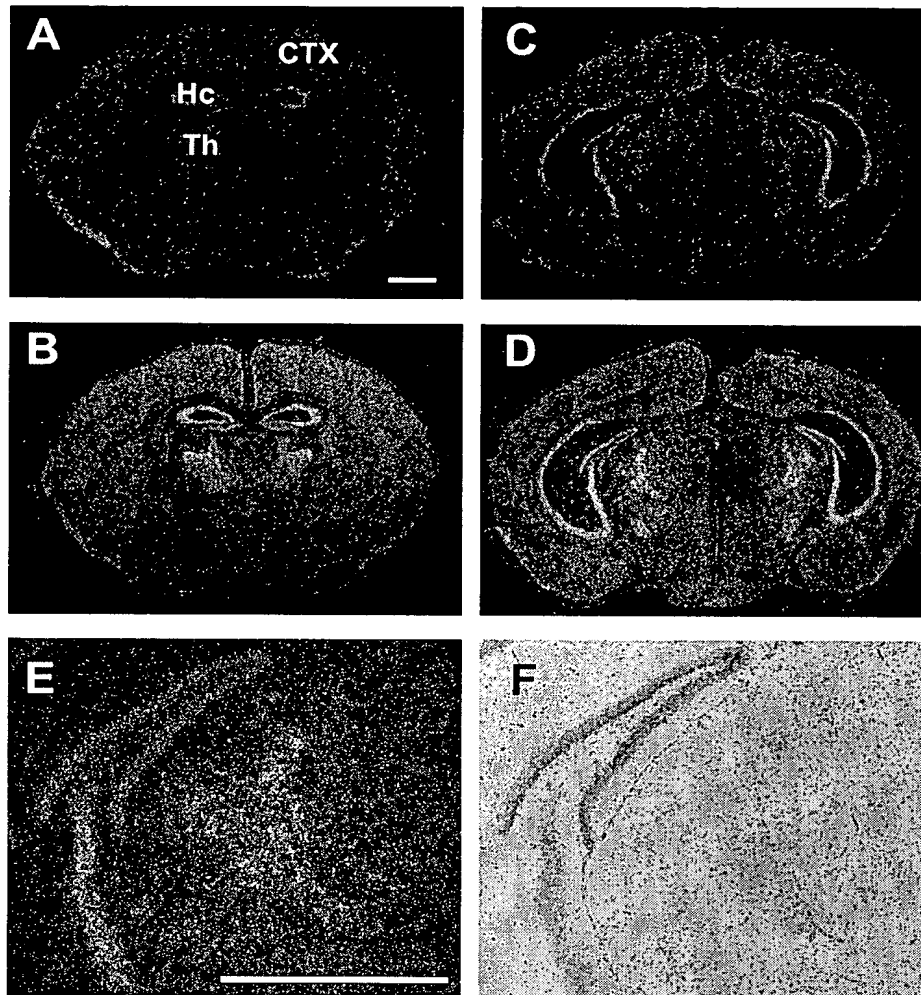


Figure 8.

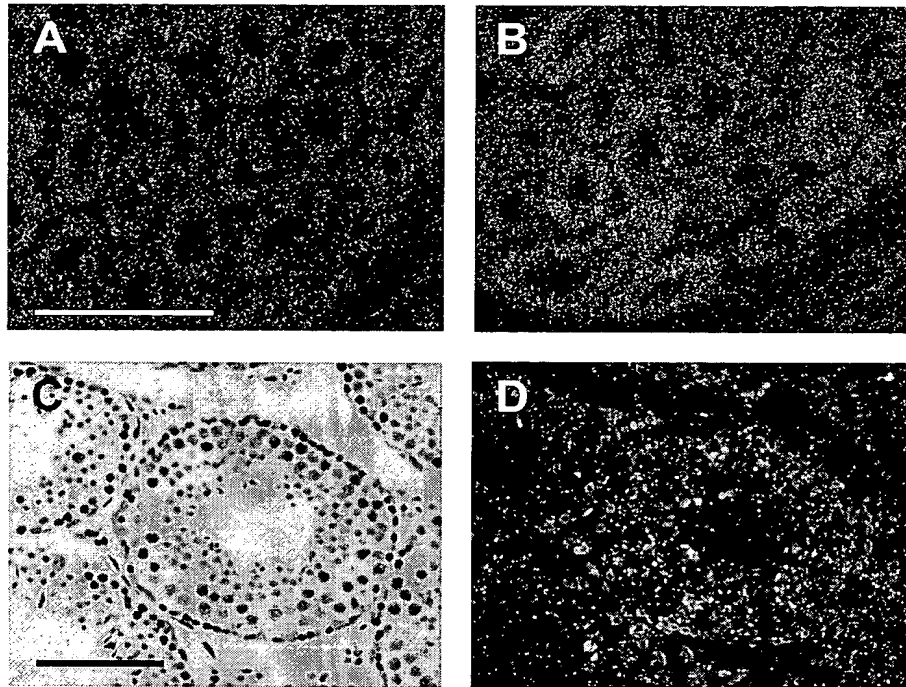


Figure 9.

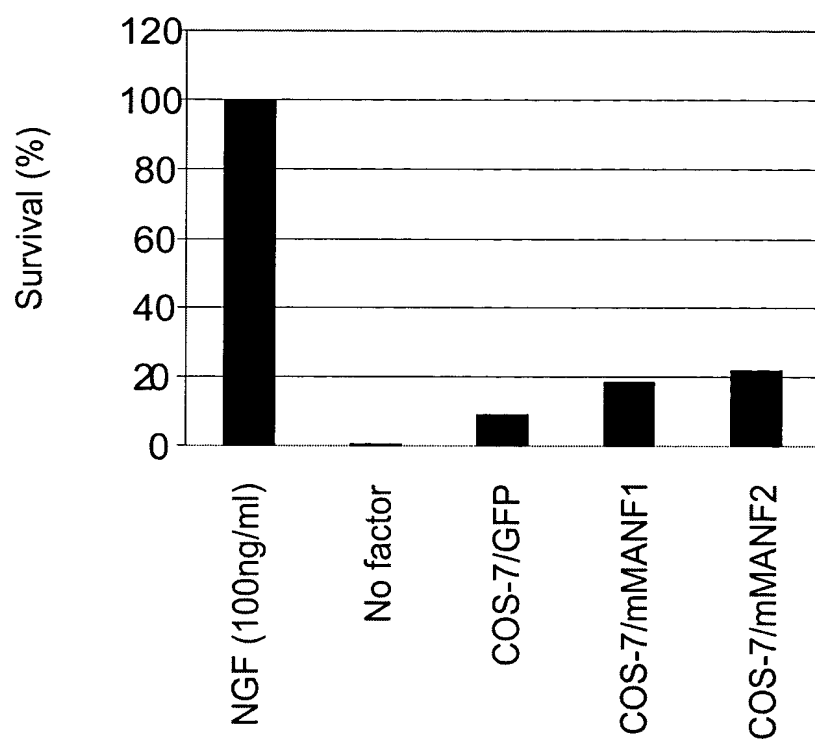
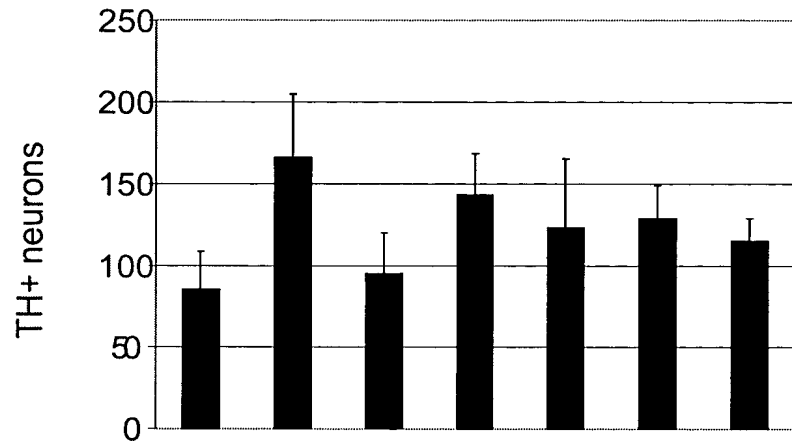


Figure 10.

A



B

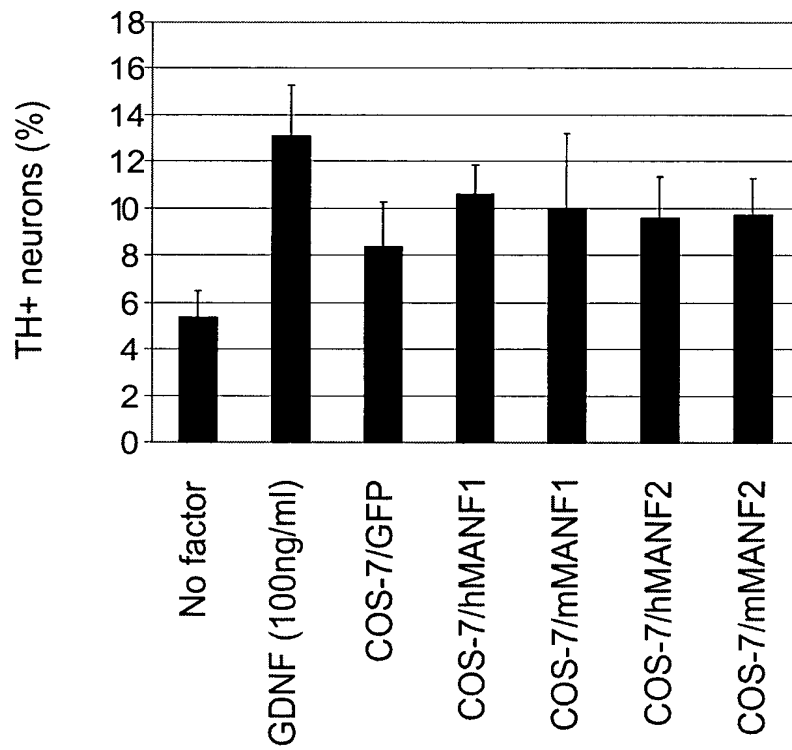


Figure 11.

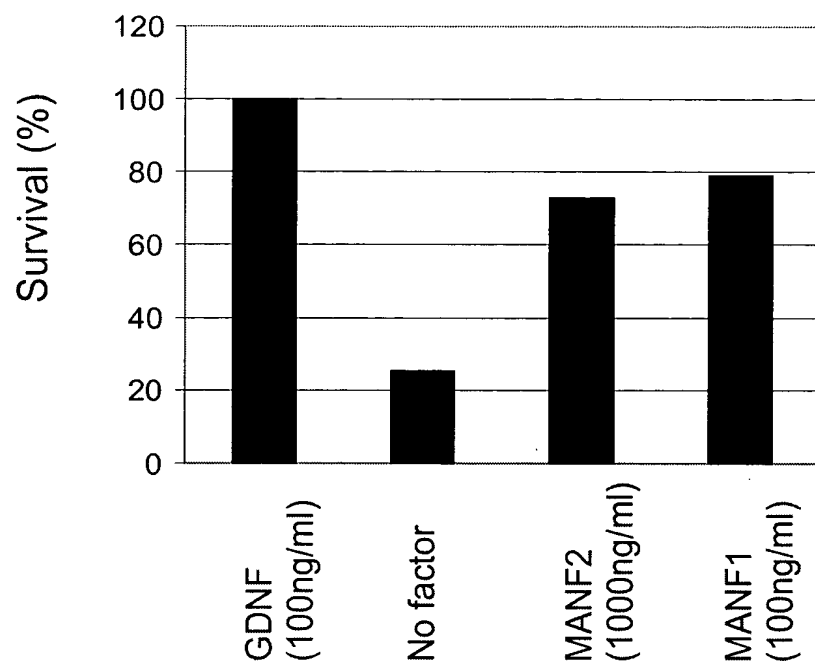
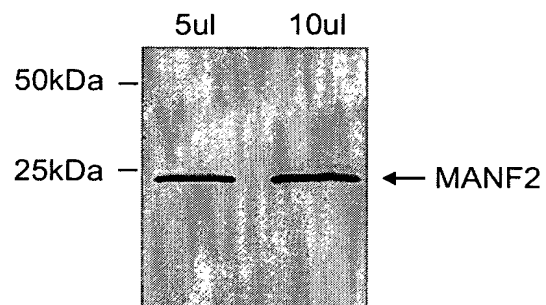


Figure 12.

A



B

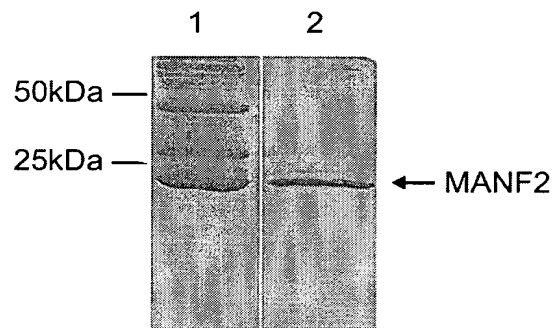
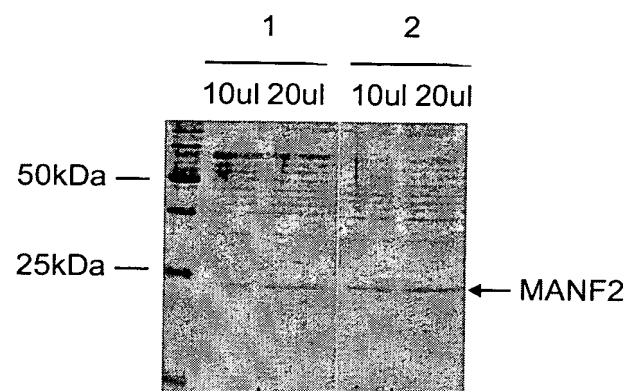


Figure 13.

A



B

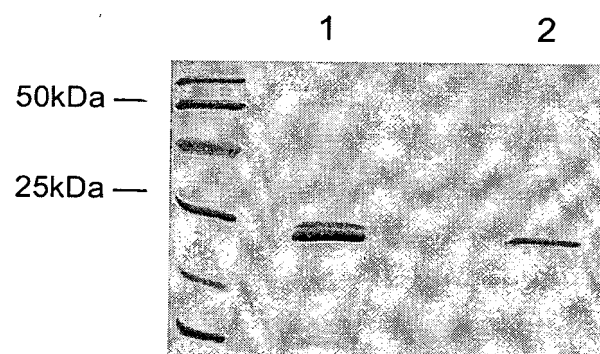


Figure 14.

Figure 15

>*Homo sapiens* MANF2 protein

*

MWCASPVAVVAFCA^{*}GLLVSHPVLTQQQEAGGRPGADCEVCKEFLNRFYKSLID
RGVNFSLDTIEKELISFCLDTKGKENRLCY^{*}YLGATKDAATKILSEVTRPMSVHMPA
MKICEKLKKLDSQICELKYEKTLDLASVDLRKMRVAELKQILHSWGEECRACA^{*}EK
TDYVNLIQELAPKYAATHPKTEL